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The stipe of this species is solid and quite terete, and always exceeds in length several times the breadth of the lamina. The latter is strong, and as thick as in a plant of *L. saccharina*, Lam. of the same length; is not at all wrinkled, and, with the exception of a short tapering at the base and apex, is absolutely linear, the edges for the whole length being as perfectly true as if cut by machinery.

I found this plant growing at a place known as Fox Island (though it is not an island) near the mouth of the Kennebec. The whole rock, from a short distance above low water mark to an unknown depth, was completely covered with it, no other *Laminaria* growing with it. All the other rocks in the neighborhood were covered by either *L. saccharina*, Lam., or *L. longicurvis*, De la P., and I saw none of this plant among them. I also found a few fronds of *L. dermatodea*, De la P., cast up by the waves; but I saw no specimens that seemed in the least to connect the new form with any other species.

FRANK S. COLLINS.

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§ 94. **Phegopteris Dryopteris**, Fée.—Is not Hampshire Co., W. Va., a much more southerly station for this fern than has been yet reported? In June last it was growing finely and profusely on the right bank of New Creek, two miles above the junction with the Potomac.

JOHN DONNELL SMITH.

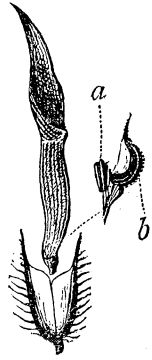
Baltimore., Oct. 27.

§ 95. **A Viviparous Grass**.—Mr. E. S. Wheeler has kindly sent me from Berlin, Mass., specimens of **Phleum pratense*, L., in which the changed appearance of the spike is so complete and so great that it would puzzle any one but an expert agrostologist to decide positively as to the species. Speaking of the metamorphoses of the floral organs of grasses into leaves, Dr. Masters (*Veg. Teratol.*, p. 168) says: "In these cases it generally happens that the outermost glumes are changed; sometimes, however, even the outer and inner paleae are wholly unchanged, while there is no trace of squamulae or of stamens and pistils within them, but in their place is a small shoot with miniature leaves arranged in the ordinary manner." The changes in the *Phleum* under consideration come under none of these categories, but agree, rather, with those observed by †Mohl in a viviparous state of *Poa alpina*, L.—a study of which, in its various stages, led him to the conclusion that the inferior palet is but a bract from whose axil the floral axis takes rise, and not, as Brown had theorized, a perianthial leaf. In the *Phleum* sent me by Mr. Wheeler, every one of the inferior palets has been transformed into a perfect leaf, with its lamina, ligule, and sheath; the latter proceeding from a joint on the

*In the *Flora of Richmond Co.*, (p. 33), this same form is said to be occasionally abundant late in the season, on Staten Island.

†*Ann. & Mag. Nat. Hist.*, Vol. XV., p. 174, from *Botanische Zeitung*, January, 1845.

slightly prolonged rachis, as seen in the accompanying sketch, in which the leaf is shown detached and raised above the glumes. On laying open one of these leaves, I find, in the majority of cases, seated on a minute prolongation of the rachis, three stamens; their immature green anthers lying side by side, and being subtended by a membranous bract having a narrow, green, minutely mucronate keel. This bract occupies the position of the superior palet; but, unlike the latter, it has a strongly pointed tip. In two instances, I detected a still further change in this bract, which, elevated yet higher within the investing sheath, had assumed the form shown at *b* in the annexed figure. Here, the structure was intermediate between that of a glume and that of the blade of a young leaf, the bract being carinate, and strongly compressed; having scarious margins, with about three veins on each side of the broad, dark green, minutely mucronate keel; and being tipped with a scabrous awn. At the base was a rudimentary sheath, and in the axil of this were seated the three stamens. The development of the sheath subsequent to the formation of the lamina in these instances is in accordance with observations already made by †Van Tieghem. In none of these monstrous flowers is there the least trace of ovary or of the scales which usually accompany it; but in every case the stamens are present. In the annexed figure, the metamorphosed flower is represented about double natural size; while the stamens (*a*) and the transformed superior palet (*b*) are shown magnified about four diameters.



W. R. GERARD.

§ 96. **Botanical News**—*The Color of Flowers*.—At a recent meeting of the Vaudois Society of Natural Science, says *La Nature*, Prof. Schnetzler read an interesting paper on the color of flowers. Hitherto it has generally been supposed that the various colors observed in plants were due to so many different matters—each color being a different chemical combination without relation to the others. Now, however, Prof. Schnetzler shows by experiment that when the color of a flower has been isolated by putting it in alcohol, one may, by adding an acid or an alkali, obtain all the colors which plants exhibit. Plants of paeony, for example, yield, when macerated in alcohol, a violet-red liquid. If some acid oxalate of potassa be added, the liquid becomes pure red; while soda changes it, according to the proportion used, into violet, blue, or green. In the latter case, the green liquid appears red by transmitted light, just as solution of chlorophyll does. The sepals of paeony, which are green, bordered with red, become wholly red when placed in a solution of acid oxalate (binoxalate) of potassa. These changes of color, which may be obtained at will, may quite well be produced in the plant by the same causes; since, in all plants, there always exist acid or alkaline matters. Further, it is stated that the transformation from green into red, observed in the leaves of many plants in autumn, is due to

†*Ann. des Sci. Nat.* Ser. 5, Tome XV., 1872, p. 236.